INSTRUCTIONS–PARTS LIST 306–640

This manual contains important warnings and information.
READ AND KEEP FOR REFERENCE.

GRACO

First choice when quality counts.™

Rev. E
Supersedes D

Back Pressure Valve

300 psi (21 bar, 2.1 MPa) Maximum Inbound Pressure

180 psi (12.4 bar, 1.24 MPa) Maximum Regulated Pressure

Model 205–122, Series C

⚠ WARNING

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated component in your system. This equipment has a 300 psi (21 bar, 2.1 MPa) maximum inbound pressure and a 180 psi (12.4 bar, 1.24 MPa) maximum regulated pressure.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

PRESSURIZED EQUIPMENT HAZARD

Spray from the gun, hose leaks, or ruptured components can splash fluid in the eyes or on the skin and cause serious injury.

- Do not stop or deflect leaks with your hand, body, glove or rag.
- Tighten all fluid connections before operating the equipment.
- Follow the **Pressure Relief Procedure** on page 2 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray nozzle.

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Pressure Relief Procedure.

⚠ WARNING

PRESSURIZED EQUIPMENT HAZARD
The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. To reduce the risk of an injury from accidental spray from the gun, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying,
- check or service any of the system equipment,
- or install or clean the spray nozzle.

1. Shut off the power to the pump. If you are using an air–powered pump, open the bleed–type master air valve.
2. Trigger the gun.
3. Relieve the line pressure by turning the adjusting screw (26) counterclockwise until there is no spring pressure.

Installation

This valve is used in a circulating system to regulate the back pressure to spray guns and to maintain the proper circulating pressure throughout the system.

The valve is adjustable to control fluid pressure in a circulating system from 0 to 180 psi (0 to 12.4 bar, 0 to 1.24 MPa).

⚠ CAUTION

To prevent damage to the diaphragm, the hard carbide seat and stem, and other sensitive parts, handle the valve carefully.

Install the valve in the return line of the spray guns, downstream from the last gun. See Fig. 1. Connect the return line to the 3/8 npsm(m) inlet (22) and the 3/8 npsm(f) outlet (11). Be sure the connections match the direction of fluid flow in the line. See Fig. 2.

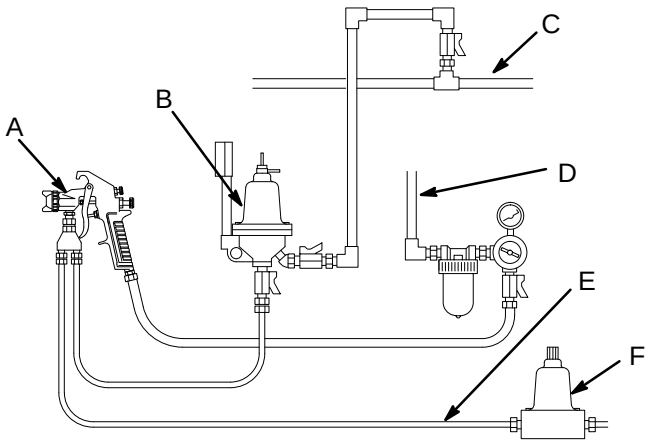


Fig. 1 04521

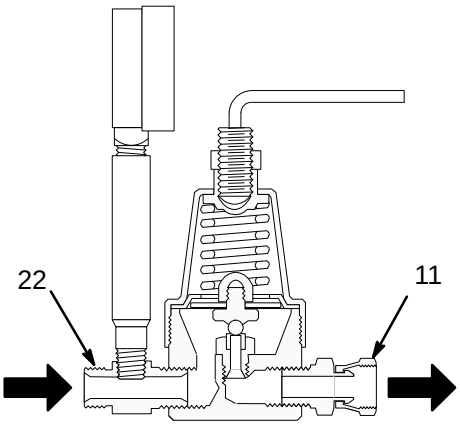


Fig. 2 04520

Operation

The back–pressure valve controls pressure in the fluid return–line. Adjust the pump pressure and the back–pressure valve for the best combination of spraying pressure and fluid circulation.

To adjust the back–pressure valve, loosen the locknut (27) and insert the hex key wrench (7) into the socket on the adjusting screw (26). Turn the screw **clockwise to increase** pressure in the return line. Turn the screw **counterclockwise to decrease** pressure in the return line. Lock in the adjustment by tightening the locknut (27).

NOTE: Always check and adjust the back pressure valve if you make changes to the system such as a change of fluids, the length of the lines, and the number of spray guns.

Flush the valve with a compatible solvent whenever the rest of the system is being flushed. Fully open the valve before flushing by turning the adjustment screw counterclockwise. Always use the lowest possible pressure when flushing.

Service

NOTE: Clean and check the valve regularly to maintain it in good working condition. Refer to the Parts drawing on page 3.

1. Remove the valve from the system.
2. Disassemble the pressure gauge (5) and the tube (16) from the inlet adapter (22). Remove the inlet adapter and the outlet union (11) from the housing (25).
3. Unscrew the cap (28) from the housing (25). Remove the adjusting screw (26) and the locknut (27).
4. Remove the spring plate (15) and the spring (13).
5. Loosen the cap nut (4). Disassemble the diaphragm and its related parts (2,10, 18, 19, 20, 21).

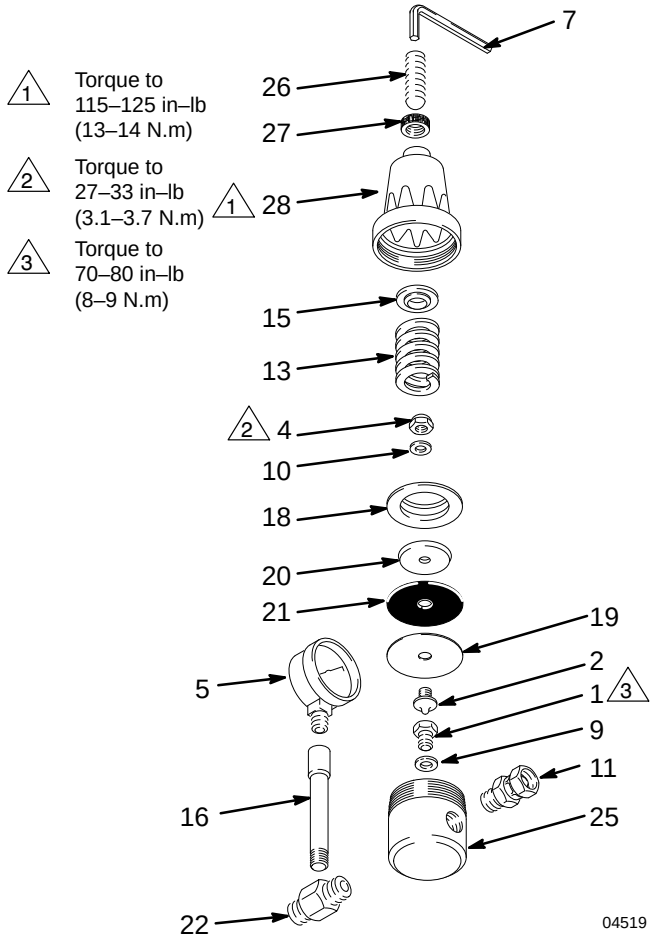
⚠ CAUTION

Be careful not to damage the valve seat (1) or stem (2) which are made of hard carbide.

Service

6. Remove the valve seat (1) and the gasket (9) from the housing (25).
7. Clean all the parts with a compatible solvent. Check the parts for wear or damage. Replace worn or damaged parts.
8. Assemble the valve seat (1) and the gasket (9) into the housing (25). Torque to 70–80 in–lb (8–9 N.m).
9. Assemble the diaphragm and the related parts as shown in the parts drawing. Torque the cap nut (4) to 27–33 in–lb (3.1–3.7).
10. Install the spring (13) and the spring plate (15).
11. Screw the cap (28) onto the housing (25). Torque to 115–125 in–lb (13–14 N.m). Reinstall the locknut (27) and the adjusting screw (26) into the cap (28).
12. Assemble the inlet adapter (22) and the outlet union (11) into the housing.
13. Assemble the gauge (5) to the pressure tube (16). Use a thread sealant to ensure a good seal. Install the tube and the gauge into the inlet adapter (22).
14. Install the valve in the system.

Parts



Ref. No.	Part No.	Description	Qty.
1✓	236–893	SEAT, valve	1
2✓	236–894	STEM, valve	1
4	100–529	NUT, hex, cap, 5/16–18	1
5✓	187–876	PRESSURE GAUGE, 0–300 psi (0–21 bar, 0–2.1 MPa) pressure range	1
7	101–976	WRENCH, hex key, 3/8”	1
9✓	189–817	GASKET, copper	1
10✓	154–789	GASKET, copper	1
11	155–665	UNION, 3/8 npt(m) x 3/8 npsm(f) swivel	1
13	157–796	SPRING, compression	1
15	160–180	PLATE, spring	1
16	160–745	TUBE, fluid gauge	1
18✓	189–816	PLATE, backup	1
19✓	177–430	GASKET, valve	1
20✓	177–432	DIAPHRAGM PLATE, support	1
21✓	177–431	DIAPHRAGM	1
22	162–265	INLET ADAPTER, 3/8–18 npsm(m), 3/8–18 npt(m), 1/4–18 npt(f)	1
25	162–811	VALVE HOUSING	1
26	112–844	ADJUSTING SCREW, 1/2–20 x 1–5/8 inch long	1
27	100–111	LOCKNUT, 1/2–20	1
28	189–815	REGULATOR CAP	1

✓ *Keep these spare parts on hand to reduce down time.*

Graco Phone Number

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:
1–800–367–4023 Toll Free

Manual Change Summary

Assembly Changed	Part Status	Ref No.	Part No.	Name
205–122 Series to C	Old	1	212–030	Seat
	New	1	236–893	Seat
	Old	5	101–180	Gauge
	New	5	187–876	Gauge

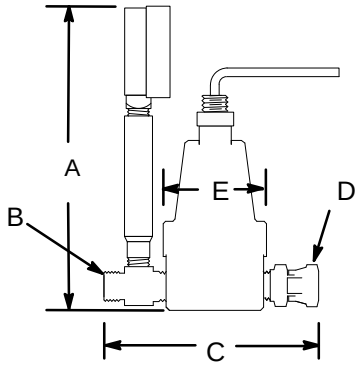
Maximum inbound fluid pressure is increased to 300 psi (21 bar, 2.1 MPa).

Technical Data

Maximum inbound fluid pressure . 300 psi (21 bar, 2.1 MPa)
Regulated pressure range 0–180 psi (0–12.4 bar, 1.24 MPa)
Valve orifice diameter . . . . . 0.156 inch (3.96 mm)
Approximate maximum
flow capacity . . . . . 2 gpm (7.6 liter/min)
Wetted parts . . . . . 303 stainless steel, plated steel
brass, tungsten carbide, buna–N impregnated
nylon, PTFE, elastomer treated cellulose fiber

Dimensions

Height (A) . . . . . 7 inch (178 mm)
Width (C) . . . . . 5 inch (127 mm)
Fluid inlet (B) . . . . . 3/8 npsm(m)
Fluid outlet (D) . . . . . 3/8 npsm(f)
Diameter (E) . . . . . 2.44 inch (51.28 mm)



The Graco Warranty and Disclaimers

Graco warrants all equipment listed in this manual which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special extended or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance or structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, gas engines, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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Graco reserves the right to make changes at any time without notice.

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Foreign Offices: Belgium, Canada, England, Korea, France, Germany, Hong Kong, Japan

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